



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

17

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,578	07/30/2003	Louis-Antoine Blais-Morin	10442-29US CMB/lm	6470
20988 7590 05/18/2007 OGILVY RENAULT LLP 1981 MCGILL COLLEGE AVENUE SUITE 1600 MONTREAL, QC H3A2Y3 CANADA			EXAMINER DESIRE, GREGORY M	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 05/18/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/629,578	Applicant(s) BLAIS-MORIN ET AL.	
	Examiner Gregory M. Desire	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 13 is/are rejected.
- 7) ☒ Claim(s) 11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/28/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communication filed 3/5/07.

Response to Arguments

2. Applicant argues (remarks page 2 lines 8-10 and page 3 lines 14-18, for claim 1), regarding claims 1 and 13 Simon and Tsai fails to teach or suggest in the texture engine determining, for each one of said at least one basis, an affine invariant representation of said at least one target primitive. Specifically does not teach determining the affine invariant representation of a target primitive in a texture engine. This argument is not persuasive because it is the position of the examiner Simon and Tsai teaches in the texture engine determines affine invariant representation of a target primitive (note Simon claim 1, col. 12 lines 28-29 and Tsai section 2).
3. Applicant argues (remarks page 2 lines 19-22 and page 3 lines 26-28) regarding claim 10 Simon and Tsai fails to teach or suggest in the texture engine computing, for said affine invariant representation, a proximity score indicative of the degree of conformance between the identified model primitives and target primitive. This argument is not persuasive because it is the position of the examiner Simon and Tsai teaches in the texture engine computing affine invariant, a proximity score indicative of the degrees of conformance between the identified model primitive and target primitive (note Simon claim 1, col. 12 lines 33-35 and Tsai section 5.2).

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 10 and 13 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4, 10, 11 and 16 of U.S. Patent No. 7,027,651. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims of instant application are fully disclosed in patent 7,027,651 (Simon et al).

Simon discloses,

Deriving at least one target primitive representative of the image (note claim 1 col. 12 lines 8-10);

Forming at least one basis from said at least one target primitive (claim 1 col. 12 line 27);

Determining, for each one of at least one basis, an affine Invariant representation of said at least one target primitive (claim 1 col. 12 lines 28-29)

Identifying, using said affine invariant representation, at least one predefined model primitives, that at least partially matches said at least one target primitive (claim 1 col. 12 lines 31-32)

Computing, for said affine invariant representation, a proximity score indicative of degree of conformance between the identified models and said target primitives (claim 1 col. 12 lines 33-35).

6. Claims 2-9 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4, 10, 11 and 16 of U.S. Patent No. 7,027,651 (Simon et al) in view of Denneau (6,384,833).

Regarding claims 2-3 and 7-8,

Simon discloses determining affine invariant representation. Simon does not clearly disclose applying transformation matrix. Denneau disclose applying transformation matrix (note col. 2 lines 60-65). Simon and Denneau are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply transformation matrix in the system of Simon as evidenced by Denneau. The suggestion/motivation for doing so would have been performing geometric processing to increase performance of

Art Unit: 2624

graphics (note col. 1 lines 40-44). Therefore, it would have been obvious to combine Simon and Denneau to obtain the invention above.

Regarding claim 4

Simon discloses deriving, form and identifying functions. Simon does not clearly disclose processing functions performed in parallel. Denneau processing function performed in parallel (note col. 13 lines 18-20). Simon and Denneau are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process functions in parallel in the system of Simon as evidenced by Denneau. The suggestion/motivation for doing so would have been performing geometric processing to increase performance (note col. 2 lines 12-15). Therefore, it would have been obvious to combine Simon and Denneau to obtain the invention above.

Regarding claim 5 Simon and Denneau discloses,

Storing said affine invariant representation in a surface in memory accessibly said texture engine (note Denneau col. 7 lines 25-27).

Regarding claims 6 Simon and Denneau discloses,

Wherein said texture engine further comprises a vertex buffer, said vertex buffer receiving said at least one target primitive (note Denneau fig. 3 block 300).

Regarding claim 9 Simon and Denneau discloses,

Wherein said texture engine further comprises a vertex shader, said vertex shader applying a transformation matrix on said at least one primitive (note Denneau fig. 3 block 303).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 1, 10 and 13 rejected under 35 U.S.C. 102(b) as being anticipated by the article, "Robust Affine Invariant Matching with Application to line Features by Tsai.

Regarding claims 1, 10 and 13 Tsai discloses,

Deriving at least one target primitive representative of the image (note page 393, right column, first paragraph);

Forming at least one basis from said at least one target primitive (via the Hough transform, page 393, right column, first paragraph, and first paragraph of section 3; basis is formed by three lines, section 2);

Determining, for each one of at least one basis, an affine Invariant representation of said at least one target primitive (section 2)

Identifying, using said affine invariant representation, at least one predefined model primitives, that at least partially matches said at least one target primitive (page 393, right column, under "The recognition stage"; section 5.2)

Computing, for said affine invariant representation, a proximity score indicative of degree of conformance between the identified models and said target primitives (note section 5.2).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2- 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai in view Denneau et al (6,348,833)

Regarding claims 2-3 and 7-8,

Tsai discloses determining affine invariant representation. Tsai does not clearly disclose applying transformation matrix. Denneau disclose applying transformation matrix (note col. 2 lines 60-65). Tsai and Denneau are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply transformation matrix in the system of Tsai as evidenced by Denneau. The suggestion/motivation for doing so would have been performing geometric processing to increase performance of graphics

(note col. 1 lines 40-44). Therefore, it would have been obvious to combine Tsai and Denneau to obtain the invention above.

Regarding claim 4

Tsai discloses deriving, form and identifying functions. Tsai does not clearly disclose processing functions performed in parallel. Denneau processing function performed in parallel (note col. 13 lines 18-20). Tsai and Denneau are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process functions in parallel in the system of Tsai as evidenced by Denneau. The suggestion/motivation for doing so would have been performing geometric processing to increase performance (note col. 2 lines 12-15). Therefore, it would have been obvious to combine Tsai and Denneau to obtain the invention above.

Regarding claim 5 Tsai and Denneau discloses,

Storing said affine invariant representation in a surface in memory accessibly said texture engine (note Denneau col. 7 lines 25-27).

Regarding claims 6 Tsai and Denneau discloses,

Wherein said texture engine further comprises a vertex buffer, said vertex buffer receiving said at least one target primitive (note Denneau fig. 3 block 300).

Regarding claim 9 Tsai and Denneau discloses,

Wherein said texture engine further comprises a vertex shader, said vertex shader applying a transformation matrix on said at least one primitive (note Denneau fig. 3 block 303).

Allowable Subject Matter

11. Claims 11-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter for dependent claim 11. The critical feature is computing of transformed proximity score indicated of the degree of conformance between the transformed model and transformed target primitive. This feature in combination with other features is not taught in the prior art. Claims 12 depend on claim 11. Therefore are also objected.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 2624

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory M. Desire whose telephone number is (571) 272-7449. The examiner can normally be reached on M-F (6:30-3:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen Lillis can be reached on (571) 272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

G.D.

Application/Control Number: 10/629,578

Page 11

Art Unit: 2624

May 14, 2007

GREGORY DESIRE
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read "Gregory Desire", written in a cursive style.